

REMARKS

This paper is in response to the office action mailed July 14, 2006. Claims 1-23 were under consideration in the application, and have been rejected. Claims 1, 6, 11, 13, and 18-19, the specification, and the drawings are currently amended. No new matter is introduced. Claims 9, 10, 20 and 21 are cancelled by this amendment. Reconsideration and further examination of the application is respectfully requested.

The invention relates to a hinge mechanism for a portable device.

In the Specification

A. Please add the following paragraphs [0010.1]-[0010.4]:

[0010.1] Figure 6 depicts a personal digital assistant in accordance with an example embodiment of the invention.

[0010.2] Figure 7 depicts a dedicated word processor in accordance with an example embodiment of the invention.

[0010.3] Figure 8 depicts a Digital Versatile Disc viewer in accordance with an example embodiment of the invention.

[0010.4] Figure 9 depicts a friction inducing device in accordance with an example embodiment of the invention.

These additions find support in the specification in paragraphs [0019] and [0020].

B. Please replace paragraph [0013] of the specification with the following text:

[0013] Referring now to both Figures 4A and 4B, shaft 402 is journaled in depending member 403 of display portion 302 of example laptop computer 300. Distal end 404 of shaft 402 protrudes such that when display portion 302 is fully assembled to base portion 301, engages groove 405 in base portion 301. Distal end 404 thus is a guiding feature that provides a constraint on the relative motion of base portion 301 and display portion 302. Groove 405 may be formed into base portion 301 by any of a number of methods. For example, it may be molded into base portion 301, or it may be formed as a cutout in a sheet metal insert in base portion 301. One of skill in the art will recognize other ways to form the elements of hinge mechanism 305. Groove 405 has a centerline 407 equidistant from the two generally parallel sides of the groove.

A marked-up version of paragraph [0013] showing the requested changes is below:

[0013] Referring now to both Figures 4A and 4B, shaft **402** is journaled in depending member **403** of display portion **302** of example laptop computer **300**. Distal end **404** of shaft **402** protrudes such that when display portion **302** is fully assembled to base portion **301**, engages groove **405** in base portion **301**. Distal end **404** thus [[prov]]i[[de]]s a guiding feature that provides a constraint on the relative motion of base portion **301** and display portion **302**. Groove **405** may be formed into base portion **301** by any of a number of methods. For example, it may be molded into base portion **301**, or it may be formed as a cutout in a sheet metal insert in base portion **301**. One of skill in the art will recognize other ways to form the elements of hinge mechanism **305**. Groove **405** has a centerline **407** equidistant from the two generally parallel sides of the groove.

This change finds support at least in the context of original paragraph [0013], in Figures 4A through 5E, and in original claim 11.

C. Please replace paragraph [0019] of the specification with the following text:

[0019] Other friction-inducing devices could be used within the scope of the appended claims. For example, shaft **402** could be a three-lobed shaft **901** that rotates in a compliant, generally-cylindrical collar **902** attached to display portion **302**. Alternatively, depending portion **403** of display portion **302** could contact a wall of cavity **415** on base portion **301** so that the sweeping motion of depending portion **403** is resisted by the friction between the two parts. An intermediate material could be chosen to provide the appropriate coefficient of friction.

A marked-up version of paragraph [0019] showing the requested changes is below:

[0019] Other friction-inducing devices could be used within the scope of the appended claims. For example, shaft **402** could be a three-lobed shaft **901** that rotates in a compliant, generally-cylindrical collar **902** attached to display portion **302**. Alternatively, depending portion **403** of display portion **302** could contact a wall of cavity **415** on base portion **301** so that the sweeping motion of depending portion **403** is resisted by the friction between the two parts. An intermediate material could be chosen to provide the appropriate coefficient of friction.

This change merely supports the addition of a figure depicting items already described in paragraph [0019].

D. Please replace paragraph [0020] of the specification with the following text:

[0020] While the invention has been described by way of example as embodied in a laptop computer, it may be embodied in other electronic devices as well. For example, a personal digital assistant (PDA) **600** is a portable electronic device that enables a user to carry data and perform some computing applications, such as maintaining an appointment calendar and address book. Many PDAs comprise a base portion and a moveable display portion. The invention may be embodied in a PDA. Other kinds of electronic devices that may open and close in a similar fashion and could embody the invention comprise dedicated word processors, and dedicated viewers for Digital Versatile Discs (DVDs). A dedicated word processor **700** may contain many of the components of a computer, but lack the general configurability of a computer, but instead be configured to enable a user to compose, edit, and print documents. A viewer **800** for DVDs typically comprises a base portion comprising a mechanism that can read data from a DVD, and a display portion on which the contents of the DVD are displayed. Such viewers are often portable, and may be used to watch movies or other entertainment programming.

A marked-up version of paragraph [0020] showing the requested changes is below:

[0020] While the invention has been described by way of example as embodied in a laptop computer, it may be embodied in other electronic devices as well. For example, a personal digital assistant (PDA) 600 is a portable electronic device that enables a user to carry data and perform some computing applications, such as maintaining an appointment calendar and address book. Many PDAs comprise a base portion and a moveable display portion. The invention may be embodied in a PDA. Other kinds of electronic devices that may open and close in a similar fashion and could embody the invention comprise dedicated word processors, and dedicated viewers for Digital Versatile Discs (DVDs). A dedicated word processor 700 may contain many of the components of a computer, but lack the general configurability of a computer, but instead be configured to enable a user to compose, edit, and print documents. A viewer 800 for DVDs typically comprises a base portion comprising a mechanism that can read data from a DVD, and a display portion on which the contents of the DVD are displayed. Such viewers are often portable, and may be used to watch movies or other entertainment programming.

This change merely supports the addition of figures depicting items already described in paragraph [0020].

In the Drawings

A complete set of amended drawings is included with this amendment, including replacements for sheets 1-4 and new sheets 5 and 6. Sheets 1-4 are modified only to change the reference to the total number of drawing sheets. Sheets 5 and 6 include new Figures 6-9. The examiner has raised two objections to the drawings.

Drawing objection under 37 C.F.R. § 1.83(a)

The examiner first objects under 37 C.F.R. § 1.83(a) that the drawings fail to show every feature of the invention specified in the claims. The examiner requires that the personal digital assistant, the dedicated word processor, the viewer for a Digital Versatile Disc, the friction inducing device, and the wrap spring friction clutch be illustrated.

New Figures 6-8 depict respectively a personal digital assistant **600**, a dedicated word processor **700**, and a viewer **800** for a Digital Versatile Disc, each in accordance with an example embodiment of the invention. The specification has been amended to include brief descriptions of the additional figures and to include reference numbers **600**, **700**, and **800**.

Applicant respectfully submits that the friction inducing device and the wrap spring friction clutch are already depicted in the drawings. The wrap spring friction clutch is a friction inducing device, as is described in paragraph [0018] of the specification. No separate identifier is used because the wrap spring friction clutch is made up of other parts, including shaft **402** and spring **416**.

Nevertheless, Figure 9 has been added, and depicts another kind of friction inducing device in accordance with an example embodiment of the invention. Namely, Figure 9 depicts a lobed shaft **901** that rotates in a compliant collar **902**, as described in paragraph [0019] of the specification. The specification has been amended to include a brief description of the additional figure and to include reference numbers **901** and **902**.

Drawing objection under 37 C.F.R. § 1.84(p)(4)

The examiner also objects 37 C.F.R. § 1.84(p)(4) that reference numeral **404** has been used to designate both the distal end and the guiding feature described in paragraphs [0011] and [0013]-[0015].

Paragraph [0013] of the specification has been amended to clarify that distal end **404** of shaft **402** does not simply “provide” a guiding feature, but *is* a guiding feature. This change adds no new matter, and merely states what was clearly intended by the original specification. It is appropriate for reference numeral **404** to designate both the distal end and the guiding feature.

Applicant believes both drawing objections to be overcome, and respectfully requests that they be withdrawn.

In the Claims

Rejection under 35 U.S.C. § 112

Claim 13 has been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, original claim 13 lacked antecedent basis for the fixed portion. Claim 13 has been amended to replace the fixed with the base, referring to the base portion of the electronic device recited in claim 6, from which claim 13 indirectly depends.

Rejection under 35 U.S.C. § 102(b)

Claims 1, 2, 6, 7, 9, 14, and 18-20 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Hoving et al. (U.S. Pat. No. 5,166,426).

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Each of independent claims 1, 6, and 19 has been amended to include the limitation of a friction inducing device that resists relative motion of the base and movable portions, the friction inducing device being one of a) a wrap spring friction clutch and b) a lobed shaft rotating in a compliant collar. Independent claim 18 has been amended to include the limitation that the means for inducing friction is one of a) a wrap spring friction clutch and b) a lobed shaft rotating in a compliant collar. Hoving does not disclose either a wrap spring friction clutch or a lobed shaft rotating in a compliant collar. Hoving therefore does not anticipate independent claims 1, 6, 18, and 19 as amended. Claims 9 and 20 have been cancelled by the present

amendment, rendering their rejections moot. Each of claims 2, 7, and 14 depends from one of claims 1 and 6 and adds further limitations, and is therefore also not anticipated by Hoving.

Rejection under 35 U.S.C. § 103(a)

Claims 3-5, 8, and 15-17 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Hoving.

“To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure.” (MPEP 2143)

Claims 3-5, 8, and 15-17 are patentable over Hoving for at least the reason that Hoving does not teach or suggest all of the claim limitations. Each of these claims depends from one of independent claims 1, 6, and 18, which have been shown above to include, after amendment, limitations not found in Hoving. Applicant believes claims 3-5, 8, and 15-17 to be patentable over Hoving.

Claims 10-13 and 21-23 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Hoving in view of Chiu (U.S. Pat. No. 6,163,451). Applicant respectfully traverses because the examiner has not made out a prima facie case of obviousness.

Claims 10 and 21 have been cancelled by the present amendment, rendering their rejections moot. Claims 11-13, 22, and 23 include, by virtue of their dependence on one of amended claims 6 and 19, the element of a friction inducing device that resists relative motion of the base and movable portions, the friction inducing device being one of a wrap spring friction clutch and b) a lobed shaft rotating in a compliant collar. As has been shown above, Hoving does not teach or suggest either of these two friction inducing devices. The examiner relies on Chiu to supply the element of a wrap spring friction clutch. In support of the rejection, the examiner cites item 66 from Chiu's drawings. However, Chiu's item 66 is not a wrap spring

friction clutch. Chiu describes item 66 as simply a gear. Nowhere does Chiu disclose a friction inducing device, a clutch, or a spring.

Clearly, the cited references do not teach or suggest all of the elements of claims 11-13, 22, and 23, and these claims are believed allowable.

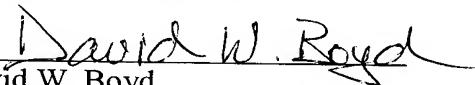
Other Art

The examiner has made of record but not relied upon Chen (U.S. Pat. No. 6,404,622), Duarte (U.S. Pat. No. 6,636,419), Torii (U.S. Pat. No. 5,085,394), Winkler (U.S. Pat. No. 5,345,362), Kumar et al. (U.S. Pat. No. 5,548,478), Hawkins et al. (U.S. Pat. No. 5,200,913) and Aschauer (U.S. Pat. No. 3,315,773). The cited references, taken singly or in proper combination, do not teach or suggest all of the limitations of Applicant's claims.

Conclusion

Applicant believes this application to be in condition for allowance, and such action is earnestly solicited.

Respectfully submitted,

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